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GENESEE FARMER.

SATURDAY, FEBRUARY 4, 1837.

Brief Hints for February.

Every thing relating to the winter-keeping of cattle must be considered by farmers at the present time as of the first interest. We have heretofore spoken of the great benefits derived from cutting straw and hay. These benefits have been satisfactorily determined by direct experiment; they may perhaps be ascribed not only to the operation of cutting, rendering this food more palatable to the animal, and thus inducing it to eat a sufficiency; but also to its causing the more complete mastication of its food, and of course contributing to the more complete extraction of the nutriment it contains.

If corn stalk fodder is cut up about one quarter of an inch in length, cattle will eat it entirely without any thing else being mixed with it. To accomplish this is of great importance, as the center stalks which are commonly rejected by cattle, are the sweetest and most nutricious part. If one of the improved cutting machines could be attached to the horse power of a thrashing machine, corn stalks could be cut cheaply and with great facility.

It is a very suitable time during the present month to procure and collect scions for grafting. In some instances, as when the trees from which they are to be taken are ready at hand, cutting them may be deferred till spring; but in most cases, the business should not be put off till then, as the multiplicity of other avocations prevents the attention to it which is requisite; for the greatest care should be taken to procure the best varieties, and the present season of leisure admits of this being done properly. A little additional care may well be taken, when it is remembered that after the scions are once procured, it is as easy to graft and raise good as bad varieties. Early fruit is always exceeding desirable, coming at a time when, on account of the previous want of fruit, it is so acceptable. We last summer, at the time of wheat harvest, visited the garden of a cultivator of fruit who had taken considerable pains in this respect, and found fully ripe three varieties of apples, two of the pear, two of plums, three of apricots, and one variety of peach just beginning to be ripe. A succession of fruits is also of the first importance. Scions should be carefully labelled at the time they are cut from the tree, if preserving the names correctly is any object. They may be preserved from drying by burying them in earth neither wet nor dry, in a cellar or other suitable place, taking particular care to protect them from the mice.

It is a very proper time now for pruning gooseberries. These are generally allowed to grow without control; the branches become numerous and dense, and a small and inferior fruit is the consequence. To procure good fruit, the branches must be thinned, by cutting off crooked, stunted, and useless ones, and leaving the straightest and most thrifty, and admitting light and air.

To prevent too much hurry early in spring, hot bed frames should now be made where they are needed. If proper care is taken of them they may be preserved many years. They should be well painted and kept under shelter when not in actual use. They should be so made that the plank of the frame may be taken apart, to admit of their being easily packed away. This may be effected by nailing them at the ends to corner posts by large wrought nails, clenching them firmly. They are connected together when used by iron bolts passing through the corner posts, and keyed on the inside. By withdrawing the keys, they are readily taken apart.

During winter a supply of fuel should be procured and cut up sufficient to last through the year. This not only prevents interruption during other business, in summer, but it admits of its becoming *dry*, by which one cord will produce often more than twice as much heat, as one cord of green wood. Wood, dried in a wood house, is found to yield much more heat than that dried in the open air, on account of the process being more effectually performed. Whenever wood is intended for such thorough drying (as all wood should be,) it should not be split finely, because if done so, it is consumed too rapidly, and hence has arisen the erroneous belief that dry wood does not always yield so much heat as that which is in a green state.

Culture of Tea.

In a late number of the Chinese Repository is an interesting account of a journey performed by G. I. Gordon, attached to the English factory at Canton, and that indefatigable missionary, Mr. Gutzlaff, to the tea hills in the interior, which produce the celebrated black teas known in commerce as Ankoy teas. Their journal furnishes some interesting details of Chinese agriculture, and the manner in which they husband all their resources to meet the wants of their millions of population. The country through which they passed swarmed with inhabitants, and though what in other countries would only be termed second rate land, exhibited the highest degree of cultivation. Rice, the sweet potatoe, and sugar cane, were the principal articles of culture; rice, as in all eastern countries, forming the principal article of sustenance. Wheat and corn are scarcely known there, they occupying too much land in proportion to their productive properties, when compared with rice.

In one part of their journey the travelers were obliged to ascend a rugged, barren mountain; yet even there, there was not a spot, where a vegetable could take root, that was not occupied by at least a dwarf pine, planted for the purpose of yielding firewood, and a kind of turpentine; and wherever a nook presented an opportunity of gaining a few square yards of level country by terracing, no labor seems to have been spared to redeem such spots for the culture of rice.

On their arrival in the neighborhood where the tea plant was cultivated, they found that no ground suitable for other purposes was devoted to it. The plant is a small shrub, planted generally in rows about four and a half feet apart, with leaves from ¾ to 2 inches in length, and growing to an average height of three feet, with bushy tops very close. The hills where the tea plants grow are too high for rice and the cane. On these hills hoar frosts are common during the winter months, and snow falls to the depth of three or four inches. The plant is never injured by the most severe cold experienced there, and thrives from ten to twenty years. The tea plant has its enemies, among which is a worm which makes its way into the pith, and converts both stem and branches into tubes.

The ground around the plants is kept light and loose by hoeing, and no leaves are taken from them until they are three years old; after that the leaves are usually gathered four times a year. The cultivation and gathering of the leaves is performed by the families; but the curing of the leaf is an art that requires some skill, and persons are employed for that purpose who are paid at the rate of one dollar a pecul (133⅓lbs.) of fresh leaves, which yield one-fifth of their weight of dry tea. The price on the spot for the best qualities, is twenty-three dollars per pecul, or about 17 cents per pound. The process of curing consists in rolling and drying the leaves over a gentle fire, the operation for the best kinds being repeated seven or eight times. Any desired quantity of seed was offered our travelers; and indeed throughout the journey they were hospitably treated, and received every information freely which the natives could give.

That the culture of tea, as an article of profit, could ever enter into competition with cotton, so long as that article is in such demand abroad, is not to be expected; still as large regions in the southern or middle states are admirably adapted to the culture of tea, it is to be wished that such favorable opportunities for its introduction, and if possible, naturalization, should not be overlooked. The perfect familiarity of Mr. Gutzlaff with the language, his acquaintance with their customs, his skill in medicine, and the confidence the Chinese themselves feel that he only wishes their good, have given him facilities for access to the interior of that secluded country, that few have ever enjoyed; and we trust that some of the enterprising shipmasters, who frequent that country, will avail themselves of the opportunity, and be the means of giving us another item in our already extended list of resources.

Sheep Husbandry.

Extract of a letter from a subscriber in Maryland to the editor of the Genesee Farmer:

"While I have my pen in hand, it may not be amiss to give you a brief account of the very handsome profits which I have realized from a small flock of sheep during the past year. When I came into possession of my farm a short time since, I found on it twenty ewes of a very indifferent breed, and of that breed not the best in age, size, or in any other respect. They were fed during the last winter on corn fodder, with the addition of turneps for a few days about the time of yeaning. After this, (the early part of March) they received no food except what they could find for themselves in the fields. These sheep, thus treated, yielded an interest during the following summer, of 87 per cent. on the sum for which they could have been readily purchased the preceding fall, as follows:

20 Ewes at $5....	$100 00
22 Lambs at $3	66 00
50lbs. of wool at 42cts.	21 00
	$87 00

It is maintained by some writers in Agricultural papers that the manure of this animal is a full equivalent for all the food which it consumes; but supposing this to be an exaggerated estimate, and that the manure of this number of sheep during a year would be less in value than their food by $50, still there is a nett interest of 37 per cent.

Is it not surprising, and much to our discredit too, that when such are the profits of sheep husbandry, we should import such large quantities of wool? and also that persons should leave their pleasant homes in the Northern and Middle States, for the wilderness of the "West"?

Impolicy of Burning Green Wood.

Few things show the tenacity with which we cling, even after the clearest demonstration that such is the truth, to antiquated error, than the fact that there are many individuals at the present day who religiously believe, and what is worse, so far as regards the comfort of themselves and families, practice the doctrine that green wood for fuel is better, and of course more economical than dry. We think the present season one most admirably adapted to cure such an error as we conceive this opinion to be; and now, while the farmer is suffering with cold fingers from his green wood fire, and he is in good earnest lamenting the leanness of his wood yard, we would request him candidly to review the whole subject, and ask himself whether he had not better desert a position which both sound theory and daily experience show is no longer tenable. The direct experiments of Dr. Black on fuel, and the later ones of Count Rumford on the best mode of producing and economising heat, have, in conjunction with the labors of others, demonstrated the very great loss those sustain who use unseasoned wood for the purpose of fuel. Making an estimate of the various kinds of green wood, hard and soft together, and of the same wood when thoroughly seasoned by exposure to the air, the difference is found to be equal to at least one third of the whole; and if dried at a temperature of

100, the difference will exceed this proportion. Green wood, therefore, contains at least one third its weight of water, and allowing a cord of such wood to weigh three thousand pounds, there will be one ton of wood and half a ton of water in every cord. That the wood will not burn, so long as this water is present in the wood, all will admit; it must therefore be evaporated or driven off in the form of steam; or in other words caloric or heat enough from other sources must be combined with the water to boil away half a ton, or about 120 gallons; and as this heat mostly passes off in a latent state, no possible benefit is derived from so great a waste. The amount of dry fuel necessary to perform this operation of boiling away half a ton of water, every farmer can estimate for himself; and we think no one can avoid seeing that whatever this amount may be, it is a total loss to himself. It is true, as many argue, that the consumption of a green stick of wood is less rapid than that of a dry one; but such forget, it seems, that a much larger quantity must be constantly kept on the fire to produce the same degree of heat; and that until the green wood has absorbed from other sources sufficient heat to expel the water with which it is charged, the fire is dull and the heat feeble; there is abundance of smoke, but combustion goes on slowly or not at all.

Since the fact of the difference between the weight of dry and green wood as stated above is indisputable, we think that those who have considerable quantities of wood to move would do well to bear it in mind, as by attending to this circumstance, a very great diminution in the amount of labor required may be made; and the striking off the transportation of thirty-three tons in one hundred, all will agree is no trifling affair. To labor is honorable; but it is time our farmers should learn that to expend it needlessly is not profitable.

Aurora Borealis.

Professor Dewey, of the Rochester High School, has furnished the following:

This phenomenon was very splendid on the night of the 25th. It began between 6 and 7 o'clock, and continued towards an hour. It appeared again after 9, and was very beautiful. The sky was covered with clouds, and the bright red and crimson which was spread over them led many to fear that a large fire had suddenly broken out in the city, as the brightness was nearly equal from the zenith on every side. A few brighter and more splendid spots appeared like openings through the clouds to more brilliant splendor above. Those spots, and the whole Aurora, slowly moved off to the south-east.

A little after nine the red color was still more bright, and as the clouds broke away in the west, a red arch appeared extending from N. W. towards the S. E. about one third across the heavens. The stars shown with their usual light through the crimson Aurora. In Taurus, the Pleiades, and Aldebaran, and many stars in Orion a little west of the meridian, were covered with bright red. Near the close, white arrows of the Aurora were shooting from the N. W. towards the meridian or south of the zenith, and the waving and flashing of the light was very distinct. Except the crimson Aurora of 1836, no other of the same color has appeared for many years till now. Indeed the red light of the Aurora, which is supposed to arise from its passing through a more dense atmosphere, is rare. Mompertins describes one of Dec. 13, 1736, as more brilliant than those he had seen further north in Europe. The heavens towards the south "were tinged of so lively a red, that the whole constellation Orion seemed as if dyed in blood." The light was fixed or movable like that of Wednesday evening, and a variety of hues was apparent.

The height of the Aurora has been variously estimated from 60 to 100 miles. This seemed to be *on* as well as *above* the clouds, which were not two miles high.

The following is from a friend, who had an excellent opportunity of viewing this grand phenomenon:

I happened to be riding the whole of Wednesday night the 25th ult. in an open sleigh through Sussex county, New Jersey, and had a good opportunity to observe the splendid celestial phenomena that occurred on that evening. Perhaps a description of its appearance at that, among other points, may be interesting to some of your readers. At about six o'clock P. M. I noticed a stream of red light in the north west, and supposed at first that it proceeded from a building on fire at the distance of four or five miles. At this time, and during the whole evening, the sky was perfectly clear except a narrow mass of dark clouds low in the north. At half past six, streams of white light began to shoot up from the north, gradually increasing in height and brilliancy; at 7 a column of reddish light appeared in the north east, narrower and of a lighter hue than the one in the north west. These two columns of red light continued to increase in breadth, height and deepness of color, until 8 o'clock, when their upper points met, forming a splendid arch from N. E. to N. W. and the stream of white light under this arch, shooting up in ever changing beauty. At about 9 o'clock the moon rose, and a change immediately took place in the appearance of the aurora. The pillars of red light rapidly increased in width until they covered the heavens from N. E. to S. E. and from N. W. to S. W.; the columns of every hue from the deepest crimson to bright scarlet. The white light in the north assumed a bluish tint—and in a short space the whole canopy excepting a small space in the southern horizon was occupied by the most gorgeous drapery—all these columns of colors came to a focus at the zenith, where the color was a deep crimson. From half past 9 to half past 10 the scene was indescribably grand and beautiful. The heavens were seemingly on fire, and the new fallen snow reflected the colors of the conflagration. The stars were not obscured by the aurora—wind north and the cold increased rapidly till 11 o'clock. About half past 11, the colors began to fade, and by one o'clock A. M. of Thursday, had entirely disappeared and the sky overcast with a light cloud.

A letter from our correspondent at Otisco, says:

"On the evening of the 25th ult. a singular atmospheric phenomenon was observed in this region, and which attracted much notice. The wind through the day had been in the west with light clouds, the thermometer about 20°. About 7 o'clock in the evening the strata of clouds began to assume a rich orange hue, as though a yellow light was reflected through it, showing more plainly in the intervals of the partially separated masses of vapor. At first it was supposed by many that the light proceeded from the moon, but the late hour at which that rose rendered it impossible. The appearance lasted nearly two hours, and when the light was brightest the snow seemed to be tinged with a brilliant orange crimson, as though illuminated by some conflagration. Whether the light was that phosphorescent light which clouds sometimes exhibit, or whether the light was occasioned by a brilliant Aurora above the clouds, and the yellow rose tinge caused by the reflection of light through them, we leave for philosophers and other observers to determine."

The Silk Business.

We commend the letter of G. B. Smith, published in this day's Farmer, to the attention of every person engaged in the culture of silk. Mr. S. was for many years the editor of the *American Farmer*, and we do not hesitate to give it as our opinion, that there is no man in this country better qualified, from actual practical experience and observation and his knowledge of the subject, to impart advice to silk culturists. The attention he has paid to it, and the perseverence and energy with which he has pursued it, qualify him in an eminent degree to instruct those who are engaged, or about engaging, in the cultivation of the mulberry. It will be seen that he had in his possession eight years ago, the identical mulberry advertised by Mr. Whitmarsh as the Chinese mulberry, and that he discarded it as valueless in comparison with the Morus multicaulis. Mr. Whitmarsh has not, as yet, condescended to furnish the public with any explanation calculated to retrieve his character from the stigma cast on it in relation to the sale of his Chinese mulberry seed. He stands upon his dignity, but we fear the load is so heavy that he will not be able to sustain it. In a letter published in the Northampton Courier, he says with great simplicity—"Complaint has been made of the price of the seed. I trust every one has a right to set his own value on his property, when the purchaser is free." Very true; but has Mr. W. or any one else, the right to pass a *copper* coin, knowing it to be such, washed with gold, at the value of a genuine *gold* coin? If so, then his reasoning is good.

☞ The editor of the Northampton Courier will please accept the thanks of the publisher of this paper for publishing his letter in reply to Mr. Huntington, and for the manner in which he was pleased to introduce Mr. Huntington's last tirade to his readers. We do not deem any reply necessary to this last effusion of Mr. H. When a man, for want of reason or argument, or from a natural inability to exercise either, has recourse to tergiversation, falsehood and denunciation, with the threat of personal violence should an opportunity present, he becomes an object of pity, and deserves our commiseration rather than contempt.

Importation of Stock.

We learn from the Baltimore Farmer, that R. D. Shepherd of that city, has recently imported from England, 5 short horned heifers and one bull calf; 6 Ayrshire heifers and a bull; 17 Dishley sheep; and 3 blooded colts.

☞ The publication of the *Farmer and Mechanic*, at Cincinnati, has been "suspended—probably discontinued."

Process of making Beet Sugar.

The attention of the public having been some time drawn to the manufacture of sugar from the beet, and having repeatedly recommended its cultivation to farmers as a profitable crop, we have felt ourselves under an obligation to give them the details of the process by which it is extracted. We have, therefore, examined the best authorities on the subject, and consulted several gentlemen of some practical knowledge and experience in the business, and the result of our investigation is that the process is altogether more simple and less expensive than has generally been supposed. In describing the various processes in the manufacture, we have carefully avoided the use of chemical terms, and substituted language which we hope will be understood by every reader.

There are several varieties of the beet which yield sugar; but the Silesian beet is recommended as the best and most productive. This beet will come to maturity in all parts of the United States, up to the 45th degree of latitude. The soil most congenial to its growth is a light sandy loam, of good deepth, and if free from stones the better.—Probably no country in the world is better adapted to the growth of this root than the alluvial meadows on the Connecticut and other rivers of New England. The cultivation, however, need not be confined to vallies, as in most of the hill towns, lands may be found well adapted to its growth. The land is prepared for the seed by deep ploughing and pulverizing the surface. This is best accomplished by ploughing in the fall and leaving the land in furrows through the winter. In the spring the land should be cross ploughed and harrowed, and, if the soil be light, it will be prepared to receive the seed. The seed may be sown as early as the season will admit, broad cast, or in drills; but ultimately the plants should be from 12 to 18 inches apart. They should be hoed and kept free of weeds—at the second hoeing they should be thinned out and but one plant left in the hill—the surplus plants may be transplanted to vacant places in the field.

In the extraction of the sugar, the beets must first be cleaned by washing or scraping with a knife, and care be taken that all decayed parts be cut off. They must then be passed through the rasper and be reduced to a pulp—the finer they are rasped the better, as it facilitates expressing the juice. The pulp must then be put into cloth bags and have the juice pressed out by a screw press. In France they use the hydraulic press, but a cider, or other press, will answer the purpose, and be attended with much less expense. As decomposition commences soon after the beet is out of the ground, and progresses rapidly, no time should be lost in converting them into sugar.

After the juice is expressed, and before it is converted into sugar, it must undergo four distinct and

different processes. 1. Defecation. 2. Evaporation. 3. Clarification. 4. Concentration.

Defecation.—The composition of the beet juice does not differ essentially from that of the cane—it combines with the saccharine matter small quantities of malic or acetic acid, wax and mucilage, which must be extracted before evaporation is commenced. The first process, therefore, is to purify the juice, which must be done by neutralizing the acid, decomposing the wax and congulating the mucilage, and hence is called defecation. All this may be done by heating and mixing with it the milk of lime in about the proportion of 46 grains troy weight to the gallon.—The milk of lime is prepared by slaking quick lime with hot water, and reducing it to the consistence of cream. The juice must be heated to about 160 degrees Fahrenheit, and the milk of lime poured into it and thoroughly mixed by stirring with a stick.—After it is intimately mixed, the stirring must be stopped and the mixture suffered to rest for a short time. It must then be heated to the boiling point, which will throw the impurities upon the surface in the form of scum, when the boiling must be stopped. When the juice has become clear it must be drawn off from below, by means of a cock, or the scum must be skimmed off from the top—care being taken in either case to effect a complete separation.

Evaporation.—The next process in the manufacture is to dissipate the water, which is done by "boiling away," as it is commonly called, but in technical language, evaporation. If in the process of defecation an excess of lime has been used it should be extracted.—This may be done by a mixture of sulphuric acid and water, in the proportion of one of the former to forty-four of the latter. This mixture, put in contact with the lime, causes an effervescene, by which the lime is thrown off, and the cessation of which is a sure evidence that the lime is neutralised. Some manufacturers say that a small portion of lime should be allowed to remain, and others that the whole should be neutralized. As practical men differ on this point, we may safely conclde it is not very material.

The juice is boiled down till it is reduced to about one fifth or one sixth of its original quantity. For this purpose pans or kettles may be used; but it will be seen that those vessels which present the greatest surface to the fire, and give the least depth to the juice, will best facilitate evaporation. As the water evaporates, flaky substances will separate from the juice and collect in a white foam on the surface, which must be skimmed off as it appears. To promote their separation, the boiling is commenced with a moderate fire, which is subsequently increased as they disappear. Sometimes the white of eggs beaten, or a little blood, is added for the same purpose. During the boiling the juice will rise in froth and flow over the top of the pan, unless prevented by occasionally throwing in a small quantity of some fatty substance. Butter is commonly used, but tallow, lard, &c. will answer the same purpose. It not only causes an immediate subsidence but hastens evaporation.

Clarification.—After being defecated and evaporated, the juice is yet in a degree impure, and the object of the next process is to separate it from its remaining impurities, and hence is called clarification. This consists in filtering it through animal charcoal granulated [burnt bones broken in grains,] and is performed in the following manner. Tubs, or vats in the form of those used for leaching ashes are made of wood or metal, and furnished with a cock inserted near the bottom. The size of the vats is immaterial; but those of the following dimensions will be found most convenient—2 feet 8 inces deep—1 foot 8 inches in diameter at the top and 11 inches at the bottom. They may be four sided or round; but those made of staves and hooped with iron hoops we should think the cheapest, and on some accounts the best.

A strainer standing on legs, and covered with coarse cloth, must first be placed in the bottom of the vat and filled with the charcoal—about 100 pounds will be necessary for a vat of the above dimensions. The charcoal must then be covered with another strainer and cloth, and the vat filled with evaporated juice, or, as it is then called, sirup. After standing long enough to leach through the charcoal, the cock must be turned and the sirup be slowly drawn off, and the vat re-filled as fast as it is emptied. The charcoal must be changed twice a day; but it may be washed and reburnt, and, thus prepared, it will answer for another filtration. This may be repeated until it is consumed.

Concentration.—The next process is to solidify the sirup, and hence is called concentration. To accomplish this it must be again evaporated until it is brought into a proper state for chrystalization. As it is important that evaporation should cease as soon as it arrives at this point, Chaptal gives the following rules for ascertaining the fact. "1. Plunge a skimmer into the boiling sirup, and upon withdrawing it pass the thumb of the right hand over its surface, mould the sirup which adheres to the thumb, between that and the fore-finger, till the temperature be the same as that of the skin—then separate the thumb and finger suddenly—if the boiling be not completed, no thread will be formed between the two; if there be a filament the boiling is well advanced; and the process is completed as soon after as the filament breaks short, and the upper part, having the semi-transparency of horn, curls itself into a spiral. 2. The second mode of judging of the completion of the process is by observing the time when the sirup ceases to moisten the sides of the boiler, and then blowing forcibly into a skimmer which has just been immersed in it—if bubbles escape through the holes of the skimmer which ascend into the air in the same manner as soap bubbles do, the liquor is considered to be sufficiently boiled."

When the concentration arrives at this point, the sirup must be taken from the boiler and poured into large pans, for the purpose of cooling. The pans must be placed in the air and the sirup occasionally stirred during the process of cooling, which will be completed in two hours. On examination, the bottom and sides of the pan will be found covered with a thick bed of chrystals, having but little consistence; on the surface of the sirup, a crust will also be formed. To promote chrystalization, or, as it is more properly called, graining, a thin bed of brown sugar is sometimes put upon the bottom of the cooling pan in order to make a nucleus, about which the chrystalized matter may gather.

After the sirup is cooled and chrystalized, or grained, all that remains is to separate the sugar from the molasses, and it is fit for domestic consumption or market. To effect this separation moulds, as they are called, must be prepared in the form of defecating vats, with the lower end drawn to a point, or so near a point as to leave a hole of three fourths of an inch in diameter. These may be made of wood, metal or earthen ware, and their capacity may be regulated according to the convenience of the manufacturer. Those used in the sugar factories in France usually are large enough to contain fiye or six gallons. They are also used in the refining process. Before using them, if of wood, they must be soaked several hours in water, and dried a short time before they are filled with sirup. Thus prepared, and with a cork in the hole as at the point, they must be filled, or nearly filled, with chrystalised sirup, and secured in an upright position, over a pan or tub of sufficient size to receive the quantity of molasses it contains. After standing from 12 to 36 hours, according to circumstances, the cork is wiihdrawn and the molasses permitted to drain off. It will at first drain off rapidly; but soon cease to flow in any considerable quantity.—To hasten its separation from the sugar, which takes place slowly, the mass must be pierced with an iron spear, by thrusting it into the hole at the point, which will give it vent and cause it to drain off. This operation must be repeated as often as is necessary, and until all the molasses is extracted.

After having remained long enough to have the molasses run off, the sugar is detached from the sides of the mould with a knife, the moulds are set on the floor in a reversed position and left for two or three hours—when, by lifting from the floor and giving it a shake, the loaf will separate from the mould by force of its own weight. The head of the loaf will retain a degree of moisture and a portion of molasses, and, consequently, should be cut off and thrown into the juice intended for the next clarification. The molasses, also, when a sufficient quantity is on hand, should be again concentrated in order to obtain all the chrystalizable sugar it contains. By the foregoing processes the beet is converted into brown sugar, the kind which is consumed in the largest quantities in most families. In the manuture of loaf, or lump, sugar there is another ptoecss called "refining," but being foreign to our present purpose we omit it.—*Silk Culturist.*

Garden Seeds.

As success in gardening depends much on good seeds, a few hints on raising, gathering and preserving them may be of importance to the young and inexperienced gardener. Plants intended for seed should be carefully cultivated during their whole existence, and especially while their seeds are ripening. They should also be located in such a manner, as that those of the same species cannot intermix and produce deteriorated varieties. To prevent mixing, they must be set at considerable distances apart, as even Indian corn has been known to mix at the distance of three hundred yards. It is utterly impossible to preserve varieties of cucumbers, melons, squashes, pumpkins, &c. in their purity, if they are permitted to flower and ripen their seeds in the same garden—the seeds of two varieties of the same species of plants, should not, therefore, be attempted to be raised in the same garden at the same time. It is this disposition to mix and degenerate that renders it difficult for seedsmen to raise a complete assortment of seeds on their own grounds, unless they are very extensive.

The most luxuriant and perfect plants, and such as arrive at maturity the earliest in the season, should be selected for seed. They should be permitted to remain in the garden until the seed is perfectly ripe; and should then be gathered and cleaned in clear weather. If any moisture remains, they should be exposed to the rays of the sun until they are perfectly dry, and then be put up in bags or boxes and secured from the depredations of rats, mice and insects, and the action of severe cold. As a general rule, new seed is to be preferred to old on account of its germinating quicker and producing a more vigorous growth; but good seeds, gathered and preserved in the foregoing manner, will retain their vitality as follows:—

Asparagus,	4	Marjoram,	4
Balm,	2	Melon,	8 or 10
Basil,	2 or 3	Mustard,	3 or 4
Beans,	1 or 2	Nasturtium,	2 or 3
Beets,	8 or 10	Onion,	3
Borage,	2	Parsley,	5 or 6
Cabbage,	6 or 8	Parsnep,	1
Carrot,	1 or 2	Pea,	2 or 3
Celery,	6 or 8	Pumpkin,	8 or 10
Corn,	2 or 3	Pepper,	5 or 6
Cress,	2	Raddish,	6 or 8
Cucumber,	8 or 10	Rue,	3
Caraway,	4	Ruta Baga	4
Fennel,	5	Salsafy,	2
Garlic,	3	Savory	3 or 4
Leek,	3 or 4	Spinage,	3 or 4
Lettuce,	3 or 4	Squash,	8 or 10
Mangel Wurtzel,	8 or 10	Turnep,	3 or 4

Some gardeners prefer old seeds of cucumbers, melons, squashes, &c. &c. to new, on account of their running less to vines and producing larger crops of fruit; but on this point we cannot speak experimentally. The vitality of seeds is easily tested, and they ought never to be sown, in any considerable quantity, without it. When divested of their covering, such as will germinate will sink in luke-warm water, while such as have lost their vitality will float on the surface.—*Silk. Cult.*

To fatten Fowls or Chickens in four or five days.—Set rice over the fire with skimmed milk, only as much as will serve one day. Let it boil till the rice is quite swelled out; you may add a teaspoonfool or two of sugar, but it will do well without. Feed them three times a day in common pans, giving them only as much as will quite fill them at once. When you boil fresh, let the pans be set in water, that no sourness may be conveyed to the fowls, as that prevents them from fattening. Give them clean water, or the milk of rice, to drink; but the less wet the latter is, when perfectly soaked, the better. By this method, the flesh will have a clear whiteness which no other food gives; and when it is considered how far a pound of rice will go, and how much time is saved by this mode, it will be found to be cheap.—*N. E. Farmer.*

COMMUNICATIONS.

The Morus multicaulis and Mr. Whitmarsh's Mulberry Seed.

Baltimore, January 24, 1837.

Mr. Tucker—Please excuse my interference in the controversy in relation to Chinese Mulberry seed. From the commencement of the excitement on the culture of silk in the United States, I have felt a deep interest in every thing that relates to it. For some years I was almost alone in urging it upon public attention, and have never ceased in my efforts to inculcate its highly important bearing upon the interests of my country. Thus much as an excuse for the following remarks. When "Chinese mulberry seed" has occasionally been offered for sale, I have uniformly denounced the act as improper, because all of the white mulberry species are natives of China, and as Morus multicaulis was familiarly called "new Chinese" mulberry, the natural inference would be that the seed offered was Morus multicaulis—and *no seed of the latter*, to any amount, *can* be offered for sale. Occasionally I have seen Morus multicaulis seed advertised, and I have had hundreds of applications for it, but I have always cautioned applicants against purchasing it; because I knew full well that there was no such thing as Morus multicaulis seed to be had *any where*. I have now in my garden the second oldest Morus multicaulis tree in America—Messrs. Prince of Flushing have *the oldest*. My tree is about eight years old. Prince's is about 10 years. These trees bear fruit, and have yearly produced a little seed, but not enough to pay for saving it. The reason is obvious: The demand for trees is so great that he would be a madman that would allow his trees to bear seed when he can make a young tree five feet high from every bud his tree produces. Thus every spring, every limb containing a bud is sure to be cut off and planted as a cutting, and hence no seed is produced either in Europe or America. All nurserymen know the tardiness with which mulberry seed vegetates, and the difficulty with which weeds can be kept down until the plants are up sufficiently high to enable them to keep them (the weeds) down by ordinary cultivation. With us the time required for the seed to vegetate has generally been from four to six weeks. Usually many of the germinating seeds have been destroyed in my efforts to eradicate the weeds. And when the seeds have at length began to grow so as to enable the nurserymen to keep the the weeds down, the season has so advanced that the plants have scarcely time to mature their wood before the severe cold of the fall sets in, when all wood not thoroughly ripened is destroyed. These reasons, even if Morus multicaulis seed were abundant, would operate against raising them from seed. And here it may be proper to remark on another improper influence that has been brought to bear on the question. It has been said that by raising trees from seed we shall be likely to obtain a more *hardy* variety, as they will be better adapted to our climate, which is entirely erroneous. I raised the very first Morus multicaulis seed ever produced in America or in Europe, in 1832, and from that seed I raised the first seedling Morus multicaulis ever raised in Europe or America; and I have raised them every year since. The result of the experiment is that if I were now about to raise ten thousand trees, and could get the seed at ten dollars a pound, I would not use it. My reasons are these; besides the difficulty above described, which with even one pound of seed will be enormous, I should have to protect all the trees from the cold of the first winter; as my seedlings have uniformly been killed to the ground every winter, while I never yet lost even a bud from trees raised from cuttings. But the cuttings must be started in a hot bed, single buds planted, and when as large as cabbage plants, transplanted into the nursery as soon as the weather is sufficiently warm to permit it. These will have so early a start that they will ripen their wood perfectly before cold weather—in fact, with me they often cast their leaves before any frost has occurred, showing the perfection of the wood. Now I can take from either of my old trees 2000 buds, and will engage to produce from them at least 1500 trees. Would it not be madness in me to save these trees to bear seed, when I know that they will not produce *half an ounce*, (of all the tribe, the Morus multicaulis bears the least seed, not more than one berry in twenty will have any at all, at some seasons, and in the best season I am sure a bushel of the fruit would not yield a pound;—and furthermore I do not believe an acre of ground could be made to produce a bushel of fruit.) And yet from one tree I can make 1500 trees worth $450, with half the labor that would be required in raising that number from seed. These remarks are founded upon facts, elicited by my own careful experiments, repeated over and over for eight years; and all who enter upon the business will sooner or later arrive at the same conclusions.

As to the hardiness of the Morus multicaulis, much error pervades the public mind. It is a perfectly hardy tree—the oak is not more so; but it is *a dry land tree*, and requires a high, dry, sandy situation. Those who plant them in rich bottom land, must expect to lose them. The reason is obvious—they grow too succulent, and are kept growing late in the fall, and are caught by frost before the sap returns to the earth. Who has not seen young suckers of the oak that put out late in summer killed by the winter?

Mr. Whitmarsh seems to think that his new variety of the mulberry, that which has been mistaken for Morus multicaulis, is better than Morus multicaulis, being he says hardier and having equally large leaves. He is mistaken, greatly mistaken, as will all be who adopt the opinion. I have seen the trees raised from the seed he sold as Chinese mulberry seed, and they are nothing more than a variety I received from Messrs. Prince of Flushing, in a parcel of 8 other varieties, eight years ago, called the "Broad-leaved," and which I discarded with all the others on discovering the valuable qualities of the Morus multicaulis. As a friend to my country I would earnestly urge upon all who contemplate making silk to turn their attention exclusively upon the Morus multicaulis. Do not waste time and means in attempts to raise them from seed, or in getting better varieties, (the first is very difficult, the latter impossible,) but if they have only the means to purchase one little tree, take it, cut it up, plant the cuttings, with a bud on each in a hot bed, as above directed; the next spring cut up all the produce in the same way; and so on the next, and if necessary the year following, and they will have as many trees as they can use. Let us see. Out of one tree they can make ten the first year; and of the ten they can make 150 the second year; and of the 150 they can make 2250 the third year; out of these they can make 33750 the 4th year, besides having all the old roots to form standard trees, and in the mean time be acquiring practical information in the management of silkworms. Let them select some high dry ground for their mulberry orchard, if sandy all the better. Such is my advice to all who cultivate silk: I have given the same on all occasions, when applied to for information, and I assure all who may read this that the above remarks are the result of my deliberate and honest conviction founded upon very extensive observations and considerable practice. Let me observe further that all my practical information has been derived from my own practice and with *my own hands*. I have had no servants to do the work for me and report to me the results; but I have done it with my own hands and observed the results with my own eyes. I can now readily detect the *mere gentleman theorist*, (who has depended upon his nurseryman or his gardener or upon his books for information,) while reading his writings. These gentlemen do much good to the cause, but they also do a great deal of harm by propagating error, not being able from practical experience to detect and reject the erroneous and useless, with which all theories are largely encumbered.

Yours, Gideon B. Smith.

Fact versus Theory.

"*The proof of the pudding is in the eating.*"

I like science, and wish there was a great deal more of the commodity current in our country, for science where perfect is truth itself, and amounts in all cases to demonstration. I like to see a spirit of inquiry into cause and effect extending among farmers; a desire to ascertain the why and the wherefore of the operations they are daily performing; and I respect the men of skill, experience, and talent, in this and other countries, whose labors have been instrumental in bringing about this state of things. But science has not yet got at the bottom of all things, and her deductions are sometimes directly at variance with established facts. Such things do not prove that science is worthless, but that philosophers are fallible.

One of the striking instances of this discrepancy between theory and fact, is found in the relative value affixed to our most common nutritive substances by the chemical analysis of Sir H. Davy, and adopted by most writers on agricultural chemistry since that time, but which is evidently without foundation in reality. Davy's estimate of the nutritive matter and consequent value, contained in 1000 parts of the different articles used for nourishment is as follows;—

Winter wheat	955	Rye	792
Spring wheat	940	Barley meal	920
Indian corn	800	Oat meal	670
Potatoes	250	Turneps	42

Now take this table, and make a calculation on the nutritive matter furnished by an ordinary crop of each article from one acre of land, and each acre would give in nutritive matter as follows;—

Potatoes	3125 lbs.
Indian corn	1920
Winter wheat	1146
Rye	712
Barley	943
Oats	552
Turneps	315

Thus, according to theory, one acre of potatoes is equal to about 2 acres of corn, three of wheat, four of rye or barley, or ten of turneps! That such is the fact, no one who has paid any attention to the matter, can believe for a moment. Chemists designate those parts of a substance which are readily soluble as nutritive, and reject the remainder; and as farinaceous substances are of this class, it is no wonder that potatoes are ranked so high when compared with some other substances. Experience proves however, that there are some principles in the nature of nutrition overlooked; some steps in the process of digestion and assimilation, that science has not yet fully investigated or understood.

Chaptal says,—"It is not by an analysis of plants, nor by the proportion of their constituent principles which can be extracted by water, that we can judge of the nutritive quality of vegetables, or other alimentary substances. I have already proved that a nutritive substance, deprived of all its soluble parts by water, is capable, in the progress of its decomposition, of forming new and soluble compounds. It is only by experiments and by the effects of this or that kind of food upon animals, that we can ascertain the differences existing between various nutritive bodies."

This is sound doctrine: it is by experiment alone that such matters can be thoroughly tested; for the stomach and its juices employed in digestion, are so different from the chemist's laboratory, that to infer the same result from the action of each, is very absurd.

According to the above table an acre of potatoes will produce 3125 lbs. of nutritive matter, while an acre of turneps gives only 315 lbs. or in other words an acre of potatoes is worth rather more then ten times as much as an acre of turneps for feeding. This is the theory, but what says the experience of the farmer? Judge Powell, the President of the Pennsylvania Ag. Society, says, "I have thought that the soil was rather improved than impoverished by a crop of turneps. I have found them to make excellent beef and mutton. I cultivate a stiff calcareous loam; and in such a soil long experience teaches me that the turnep is the only root crop worth attention. *I have ceased to raise potatoes for live stock.* I think good farming, where a certain market is not contiguous, requires the potatoe crop to go but little beyond table use."

In the *Farmer and Mechanic*, is a communication from Mr. R. Gordon stating the result of an experiment in fattening cattle on Ruta Baga. Two yoke of oxen were selected. To the one yoke he allowed two bushels of ruta baga in the same time that the other yoke consumed a bushel of corn; and the result of the experiment satisfied him, that two bushels of ruta baga is better than half that quantity of corn for working oxen, or other neat stock. The turneps used by Mr. Gordon were from a crop of 1510 bushels to the acre, a most extraordinary yield.

No man who has tried the turnep can doubt its nutritive qualities, when applied to the purpose of

fattening cattle. Experiments here have been to the full as satisfactory as in t at land of turneps and fat cattle—England. Since I commenced the culture of the root some five years since, and then gave it a fair trial, I have used nothing else for fattening beef, and never while using potatoes or corn did my cattle take on fat better, or make beef of a finer qulity. It certainly exceeds all other feed in cheapness. My turneps cost me from four to six dollars a hundred bushels, and two bushels a day, is an ample supply in most cases, for an animal. Compare this cost with potatoes, corn, or other grain, and the value of the turnep *will* be fully manifest.

OBSERVER.

Mr. Parker's Road Bill examined—No. III.

We think the time has fully come to try the experiment of a new system of road laws, or rather to alter our present system so as to render it *new*, in its principal features. The Bill reported, for that purpose, to the Assembly last winter, by Mr. Parker, chairman of its committee on roads, is now before the readers of the Genesee Farmer, it having been recently published in that paper. Questions for the people now to answer, are such as the following. 1st. Are the alterations in our road system, provided for by that bill, needed? 2d. Does the bill provide remedies for the evils complained of, under existing laws? In answer to the first question, we say, if the endurance of intolerable evils, resulting from the bad condition of common roads—if an annual loss to the state equivalent in value to half a million of dollars, by a wasteful and profligate use of public revenue, which necessarily results from the imperfections of the present system—if these considerations can be supposed to furnish arguments, then we have arguments enough, by which to urge an immediate and radical alteration of our road system. In regard to the 2d question, it gives us pleasure to perceive, as we do, that the proposed bill rejects the whole system of agency by pathmasters or overseers. The pathmaster policy forms, by far, the most obnoxious trait, in the character of our present road system; and from this proceed nearly all the evils resulting from the system which have become subjects of complaint. How can it be expected, that the art of making and repairing roads will undergo improvement, or that such agencies will be skilfully executed, while committed to petty town officers, elected as pathmasters are annually, and without the least regard to appropriate qualifications. It is not in general, the practice to search after the best qualified men, for those offices, but the general practice is, to take for pathmasters, the inhabitants of districts in rotation. Hence it not unfrequently happens that to an individual who is absolutely incompetent for the direction of any sort of business, is committed the care of a road district, on which may have been assessed two or three hundred days labor. Who can wonder that we have not good roads? It cannot, we think, be doubted, that an equivalent to one half of what is assessed in this State for the use of roads, would if skilfully and economically applied, put common roads in a far better condition than that in which they now are, or ever have been. Here then is indicated a prodigious waste of public treasure—a waste not to be computed annually at less than half a million of dollars. It has been remarked by an intelligent writer, that road making is an art, as well as a science, and that it requires for its successful practice an appropriate education, no less than any other art. In sentiment we concur with the writer. We think it implies no greater absurdity to suppose that every man may be a silversmith, a blacksmith, a shoemaker, a cloth dresser, a joiner, a carpenter, &c. and practice successfully at each art, than to suppose that any man by nature, is qualified to practice the art of road-making. It is our opinion, there are few arts the attainment of which is more difficult to acquire than that of making and repairing roads. It is not expected that all the necessary light, relative to the art of road making, will immediately and directly emanate from the provisions of the bill, the merits of which we are now canvassing. It is expected however, that if a code of laws containing the features, and embracing the principles of that bill, should come into use, an amelioration in the condition of our common roads would soon become strikingly apparent. The introduction of such a system would have the effect to break up that deadening apathy in regard to the condition of roads which has prevailed hitherto and still prevails in this state, to a disgraceful extent. It would, if we mistake not, afford the requisite inducements to ambitious enterprise, and thus lead to valuable improvements in the art of road-making—an art, although of the first importance, yet not encouraged at all, but obviously stifled and crushed, by the system of laws now in use. While all the other arts practiced here for the benefit of civilized community, have been in a state of rapid improvement, that of making roads has not advanced. We think it has been retrograde. Certainly it is now half a century behind all the other arts. The bill reported by Mr. Parker, appears to contain the requisite provisions for the practice of economy, in the application of labor to roads. Under a system of laws like the one for which the bill provides, work may be done for the improvement of roads, in the winter season—a thing which can rarely if ever happen, under the existing code. Thus much of the work necessary to be done on roads, may be performed in the winter season, affording peculiar facilities for many operations on roads—a season too, at which time can be better spared for highway work, than at any other. According to the provisions of this bill, contracts for expenditures on roads, may be made prospectively, with a view to future operations, foreseen to be necessary. Accordingly, when it is foreseen as it often may be, that it will be necessary the next season, to build a new bridge, or to repair an old one, all the materials required in either case, may be contracted for, and provided in the winter preceding the time, when they will be needed for use. This would be much better, than to have every thing left to be done in the month of June, according to the practice which has hitherto prevailed.

D. B.

Onondaga County, January, 1837.

On making Winter Butter.

MR. TUCKER—Among the numerous modes of making butter in the winter, which I have seen recommended, I am inclined to think that which is described in the January number of the M. Gen. Farmer, and called the "Russian mode," decidedly the best. For the last two or three years, a similar mode has been practiced in my family: and though the principle is substantially the same, a more minute description of the *practice* may be of some importance to your readers.

A kettle or boiler of proper size, such as usually accompanies a common cooking stove, is placed on the stove; into the boiler is put a small quantity of water. The pan into which the milk has just been strained, is then placed on the boiler, or over it, so as to cover it closely; and probably it would be better to have a part of the pan below the top of, and within the boiler: at least the whole of the bottom of the pan should be within it. It is here suffered to stand till it has been so heated, not *boiled*, by the steam, as to have the appearance of scum or froth just beginning to rise on the surface of the milk. It is then taken off and set away.

The benefits of this plan are the following: 1st, a greater quantity of cream is obtained, and in a much shorter time. 2d, less than half the labor and time is required in churning. So easily is the butter produced, that simply the stirring necessary to mix each new skimming of cream, has sometimes changed the whole mass into butter before the intended churning day. And when the quantity of milk is small, as in families having but a single cow, a churn at this season may be dispensed with. 3d, the butter is of a superior color and flavor, being equal to most of the butter that is made in the fall. And 4th, as stated in the Farmer, the milk is left sweet, and when skimmed, possesses nearly the same value for ordinary purposes, as before. Should this plan be adopted generally by those who make butter for the market, we should no longer see the preference given to fall butter.

And before I close this article, permit me to enter my protest against the practice recommended by some, of *washing* butter newly churned, either with soft or hard water, notwithstanding the Orange county women say, "give us good hard water, and we will make good butter." Experience I think has proved, that butter with which water has been used in the working will not keep sweet so long as that which has never come in contact with water.

Y.

SELECTIONS.

Household Affairs.

Every housewife knows how to make herb tea. The herbs are put into a cup or dish, hot water turned upon them, and they are suffered to *steep*—why not boil? Because, a large portion of their medical virtues, and particularly the principle of flavor, the most volatile property they contain, is dissipated by boiling, and the virtues of the tea lost. In the process of boiling and fermentation, the natural flavor and aroma of the choicest vegetables are dissipated and changed. Yet, though every woman knows how to make *herb* tea, few seem to know how to make green or black tea, or coffee; or knowing they do not reduce their knowledge to practice. A mistaken economy, to get all the strength, induces them generally to boil the latter well and often the former; and the consequence is, that instead of a grateful, refreshing beverage, they give us a dull, acrid, or insipid substitute, retaining nothing pleasant but the color and heat. The aroma, which gives the liquor its value, and which should be recognized by the nose as well as the palate, is gone—*with the steam*, and with it much of the flavor. They not only boil the strength, but they waste it. Now without intending to infringe upon the prerogative of the good wife, we do advise, that she will make her green and black, as she does her herb tea, without boiling; and that she will only leach her coffee, by putting it, when recently burnt, and fresh ground, into a strainer, fitted to the top of her coffee pot, and turning upon it as much boiling water as would suffice in the old mode. We can assure our fair readers, from reason as well as experience, that this is the best way, not only to gratify the taste, but to promote economy. Less tea and coffee are required than in the boiling process.—*Cultivator.*

PICKLE FOR BEEF AND PORK—The following receipt for making pickle for beef and pork, is strongly recommended to the adoption of those who pickle beef and pork for family use. Persons in the trade, who will adopt it will find a ready sale for their beef and pork. It has been used by many families in this city, and always approved. I do not hesitate to assert, that there is no pickle in use to be compared with it. It is familiarly known by the name of the "*Knickerbocker Pickle.*" Could this receipt be generally adopted, our pickled beef and pork would have certain preference in the foriegn market.

Receipt—6 gals. water, 9lbs. salt, coarse and fine mixed, 3lbs brown sugar, 3 ounces salt petre, 1 ounce pearl ash, 1 quart molasses, to every six gallons of water. In making a larger or smaller quantity of pickle the above proportions are to be observed. Boil and skim these ingredients well and when cold put it over the beef or pork.—*An Old Housekeeper.*

RAT CATCHING.—A new method has lately been adopted of catching rats, which will probaly supercede all others now in use. A box lined with mirrors having a small opening in front, is set on the floor. —Rats beng gregarious in their habits, on seeing themselves reflected in the mirror, they are tickled with their company, and immediately call their fellow rats.—When a sufficient number are collected, the rat catcher lets fall the front and they are made prisoners.—*Detroit Journal.*

Remarks on Cooking Food for Cattle.

In our last we commenced giving notices of certain experiments, instituted under the auspices of the Maryland Agricultural Society, for ascertaining the advantages of preparing food for cattle, &c. We now continue this subject.

Flax Seed.—Five ounces of flax seed were next placed on the coals in one pound ten ounces of water, and twelve ounces more water were added. The mess was very easily excited, and the oil boiled over more than once. What was saved made a very rich looking mess of twenty five ounces. But nothing need be said in favor of flax seed jelly —those who have used it place it before corn meal for fattening beeves.

Wheat Shorts.—Five ounces of good wheat shorts were cooked in one pound ten ounces of water, with the addition of eight ounces more during the boiling. When done the mess looked like a rich loblolly, and weighed thirty one ounces.

In all these experiments, that the increase of both

bulk and weight was caused and made by the water, aided by the agency of heat, there can be no doubt. And when it is considerd that water is the greatest ingredient in the richest made soups; and is the chief agent in the growth not only of herbs and plants, but of hugest oaks of the forest, why may it not in an absorbed and solid state conduce to the growth and increase of a hog?

Corn crushed, (to ascertain the yield.)—A tub of five bushels of corn in the ear was shelled, & yielded two and a half bushels and one quart—the cobs were then pounded and again mixed with the corn. In this state the whole was grouud, and reduced to a fine chop. It now yielded 4½ bushels, wanting one quart.

If the eighty-one quarts of corn had been ground into tolerable meal they would have yielded by measure one hundred and five quarts of meal, and with the cobs added did make one hundred and forty-three quarts of fine chop. I regret that the different items of this experiment were not weighed as well as measured.

Cattle and Sheep Husbandry.

Opinions of eminent Breeders, Graziers, &c. collected and condensed for the Cultivator.

The horns of cattle are general designations of distinction and variety and are supposed to denote particular qualities. Thus English bullocks are distinguished as long, half long, short, and middle horned, wide or broad-horned, polled or hornless. The grand distinctions are however the long and the short horned which seem generally implicated with peculiar properties of milk and hide. Thus the long-horned cows produce a richer milk, of course greater proportional quantity of butter and cheese, and a thicker hide than the short-horned: which last however, afford larger quanties of beef, milk and tallow. The flesh of the long horns is generally more compact and solid, and finer in the grain than that of the short; whilst in the last particular, fineness of grain, they are both far excelled by several middle-horned varieties—*Lawrence*—as the Devons, for instance. The rule has exceptions. The Norman and Alderney cows present a very strong one. With short horns, they afford a very rich milk, equal to the best long-horned cows, with a larger proportional quantity.—*Ib.* We have found the milk of a herd of cows, under the same keep, tested by the lactometer, vary in the proportion of cream from nine to fifteen per cent.

The colour of cattle seems perfectly immaterial, in the view of utility, unless we allow the common exception of white and light colours, on the score of tenderness. I have frequently seen black cows the largest milkers; and have at this time before my eyes an ancient one of Holderness. milking at the rate of nine gallons a day.—*Ib.* The breed first introduced into this state by the original Dutch settlers, is believed to partake largely of the Holstein. It still affords many first rate milkers.

The appellatives, most common are ox, bull and cow—bull and heifer calves. A young castrated male, after the first year, is called a stot, stirk or steer—at five years old, an ox. A female, after the first year, is called an heifer, or quoy; at four years old a cow. Coarse and sturdy cattle are often termed runts. Bullock is the general term for all full grown cattle, male or female, fat or lean.—*Ib.* These definitions are given as often necessary to understand British writers upon cattle.

The criteria of a good milch-cow, are, according to Lawrence, whatever be the breed, a capacious and thin udder, large teets, with a large and distinct milk-vein; accompanied with a fineness of the head and chops, thinness of the neck, and somewhat gaunt and meagre appearance of body, promising no great tendency to fatten. In common where great tackle is found, that is, a fine and large udder, sufficient milking need not be doubted—if food to make milk is abundant.

By improvement of the breed of animals is meant the gradual change of form and property, in their progeny, until they shall arrive as nearly as possible, to a certain standard of presumed perfection This is to be effected on the principle of *like producing like*, by a conjunction of male and female, of the desired species, form and properties, some steps or points being gained in every procreation. The male, of course being able to multiply likenesses to such extent, must be the prime instrument in the business. It is therefore of the utmost consequence that he be thorough bred, or thorough shaped; and the female ought to be selected with the strictest care, since, although her qualities cannot be considered of so great consequence as those of the male, yet it must not be forgotten, that perfection is not to be attained, but from perfection on both sides.—*Ib.* These considerations are of much moment to those who endeavor to excel in their animals. Nothing, continues our author, can be more groundless than the notion, "that all breed goes in at the mouth," inferring that all excellence depends on keep. It would be equally rational to say, that size and form depend on food.

The importance of a good breed, should induce the farmer, says Lawrence, as the safest and shortest course, to part entirely with an inferior stock, and to replace with a species nearest to perfection, at any price. For, he adds, a ram, which from his perfect shape & quality will improve his progeny immediately, to the amount of one-quarter additional value in each individual, taking into account the extent of the compound, progressive improvement, *may be far cheaper at fifty, than a common bred, one at a single guinea.*

The Devons are the speediest working oxen in England, and will trot well in harness. In point of strength they stand in the fourth or fifth class. Their excellence for labor is best proved by the fact, that in North Devon and Somerset, where they most abound, the fashionable substitution of horses in farm labor has made no progress. They are in high repute as feeders, and for the superior excellence of their beef, which has been acknowledged for ages. Robert Bakewell paid them the highest compliment they could possibly receive, by declaring to an inquirer, that the Devons could not be improved by any alien cross. Being a hill cattle, they are hardy, and better winterers than their appearance would seem to warrant.—*Lawrence.* Among the best herds of Devons in the United States, that we are apprised of, are those belonging to Messrs. Humberts, of Winchester, Ct., and to Mr. Patterson, near Baltimore, Md. We also saw fine animals of this breed on the farm of Mr. Garbut, in Wheatland, Monroe.

The Hereford cattle partake of Devon blood, though larger than the Devons in size. They are the most powerful working oxen and are nearly as quick upon the foot as the Devons. They are good feeders, profitable to fatten, but bad milkers. We do not know that any Herefords have been introduced into the United States, though, as working oxen their propagation here would be of public utility.

The Holderness, according to Lawrence, originated in the 18th century, and were a cross of the old short-horns, or Teeswater, with the Norman or Alderney bulls. The cross was a fortunate one, "Never was there a more fortunate cross." In no other country does exist so excellent a breed of cattle, as those of Holderness, including all the useful properties. In one, perhaps the most important respect, great milking, they are superior, and even without rivals. Their beef is finer than that of old short-horned breed, and they fatten much earlier and quicker, carrying still a vast depth of natural flesh, and tallowing within in the first degree. They have both speed and strength enough for labor, and their shoulders are well formed and well posited for draught." They are beautifully variegated in color, spotted, striped, sometimes *shutted*, red and white, or black or brown, or white. They rival the best long-horns in the cheese and butter dairies, and for suckling are unrivalled. These are well known as the stock generally kept by the London cow-keepers. They are great consumers; but, says Lawrence, "it matters not how much cattle eat, if they pay for it." The Holderness differs from the "improved short-horns."

The Alderney and Norman cattle, are of diminutive size, and not distinguished for beauty, being thin, hard and small boned, and often very awkwardly shaped. This description refers particularly to the cows. They are however among the best milkers in the world, as to quality, and in that respect are either before or immediately next to the long horns; but weight of butter for inches, they are far superior to all. The Norman cattle make fat quick, and their beef is of the first class, fine grained, high colour and savoury.—*Lawrence.* We saw, in 1835, three fine Alderney cows, just imported, in the neighborhood of Boston.

The *Tree-fold* is recommended in the New Farmers' Calendar. It is a circular enclosure of thickly planted trees, suppose of eight acres extent, the central acre remaining unplanted, as a sheltered fold for cattle, with sheds or out houses; the access to be made by a serpentine road, for the purpose of preventing a current of wind upon the fold. The beech and white oak, or an intermixture of evergreens, are preferable, on account of their retaining .heir foliage during winter. This suggestion merits consideration, particularly of large sheep farmers, and upon new farms a suitable reservation may be made of the younger growth of forest timber. In the prairie districts of the *far* west, where the winter blasts sweep over a vast expanse of level, and often naked country, the *tree-fold* will be particularly beneficial; and where they cannot be preserved, they should be planted, without delay, by the new settler.

Dairy statistics.—In Cheshire, stock is esteemed only as it profits the dairy, cheese being the great staple—and cows for the dairy being the prime object. Their favorite points, "large thin skinned udder, and full milk-veins: hide not material, shallow and light fore quarters, capacious behind, wide loin, thin thigh, white horns, long thin head, brisk, lively eye, clean chops and throat, general symmetry and beauty no object. Cows held to be in their prime from four to ten. Calves run with the cows three weeks, and are then fed on whey with a little meal or linseed. One quart of meal, mixed with forty quarts of whey, is the daily allowance for ten calves. Hay the first winter, straw the next. Cows housed at night in the winter, and turned to grass in good condition. Hours of milking, in summer, six, morning and evening. The farmer attends milking, to see that the work is effectually done, as "each succeeding drop which a cow gives at a milking, excels the preceding one in richness." A northern aspect preferred for the milk-house, sheltered by buildings or trees, where a uniform temperature of air can be preserved, with the aid of a stove in winter. The product of a cow is 300 to 500 lbs. and upwards of cheese. One gallon of milk makes 5 pounds of cheese; and the dairy-men are better satisfied with one that gives eight quarts per day, through the season, than with one that gives more, as in the latter case the milk is generally thinner, and the cow becomes sooner dry. The best winter food for cows is good hay, assisted by root crops. The hay being mixed with straw, will, in exact proportion to the quantity of straw, deteriorate the produce of the cow. They find here as elsewhere, that great milking and great proof in beef are incompatible.—*Law.* Well saved corn stocks, if cut and moistened, are thought equal to hay.

Agricultural Architecture.

Though nothing contributes more to the beauty and value of a farm than handsome buildings, yet most farmers are grossly inattentive to their construction, especially dwelling houses. They suppose that comfort and convenience are all to which a farmer should aspire, and consider every thing ornamental a wasteful expenditure. It is true they admire the beautiful houses of the clergyman, the lawyer and the merchant, but think them not adapted to the taste and occupation of the farmer, and consequently instead of taking them for patterns in building, devise new plans, which in their opinion, are better suited to their circumstances and condition in life, and which they think are in accordance with a more rigid economy. The result is, the beauty of farms is marred by the erection of buildings without symmetry or taste—mere piles of lumber and bricks, without form or comeliness, which would puzzle an artist to determine whether they were intended to be burlesques upon civil, military or naval architecture.

It is a general opinion that an elegant dwelling house is necessarily an expensive one, and hence most farmers content themselves with convenience, and leave elegance to those they suppose better able to indulge it. That architectural elegance consists more in design than dimensions, is apparent from the fact that many small modern built dwelling houses are far more elegant than larger ones of anti-

quated styles of building, besides being less expensive. The size of the dwelling house should be regulated by the family and business of the intended occupant; but whether it be large or small, elegance, as well as convenience, should be regarded; and they may be easily combined without subjecting the builder to extra expense. Every person, therefore, intending to build, should not only "first set down and count the cost," but employ a competent scientific and practical architect to make him a plan, and after it is made, not suffer it to be departed from for the gratification of his own whims, or those of his wife. A trifling alteration in the plan of a building will destroy its symmetry, mar its beauty and make it unsightly to the eye of taste.

Thus far a handsome dwelling house may be erected with the same expenditure as a homely one. The subsequent expense will vary according to the style in which it is finished, and the cost of the labor and materials bestowed upon it. In this respect, also, elegance ought not to be disregarded, and the expenses attending it will be found far less than is ordinarily supposed. Fifty, or at most one hundred dollars expended in ornamental work, will make a vast difference in the appearance of a dwelling house and in most cases would be amply sufficient to make it elegant. There are in reality but few things which can be charged to the account of elegance—porticos, window blinds, cornices, painting, &c, &c., are as useful as they are ornamental, and no dwelling house should be considered finished without them.

The same is true, though in a less degree, with respect to the constructien and location of out-houses. These may be planned in such a manner as to add much to the appearance, as well as the convenience of the farm, without additional expence. Much elegance may also be combined with convenience in the arrangement of gardens, yards and avenues. Though these, scientifically laid out and tastefully decorated with shade trees, evergreens, and flowering shrubs, are indispensable to giving the beauty of the buildings its proper effect, yet they require but a very small outlay of money. A little labor, and a few dollars for the purchase of rare plants is all that is required. If, therefore, architectural elegance and rural beauty are attainable at so cheap a rate, should not every farmer regard them in the construction of his buildings and the laying out of his grounds—and will not the increased value of his farm, besides the gratification of his taste, and the satisfaction of having contributed his mite towards improving the general aspect of the country, afford him an ample identity against pecuniary loss?—*Silk Cult.*

Observations relating to the Planting, Management and Culture of Fruit Trees and Plants.

(Continued from page 30.)

To promote the Growth.—It will be proper early in the spring, to examine such trees as have been planted the preceding fall to ascertain whether the high winds which prevailed about the time of the breaking up of the frost may have shaken them loose; if this should be the case it would be best to have the ground trod firmly round the tree again as the shaking will be likely to destroy the tender roots as fast as they are put forth, and of course the tree must perish. In order to make fruit trees thrifty and come early in a bearing state tne ground about the trees ought to be constantly kept mellow, and neither weeds, grass or crops permitted to grow over the tree roots; and a very great improvement in the growth and appearance of the trees would be made if a small dressing of manure was annually in the fall spread around where the ends of the roots may have arrived at, and have it immediately dug in—and the young trees always thrive best when the land amongst them is constantly kept under tillage. The following crops may be raised very suitably among them, provided every, or every other crop, is manured: potatoes, pumpkins, beans and other vegetables; wheat, rye, oats and clover are considered injurious to the newly planted orchard. In order to destroy insects and increase the thriftiness of the trees, prepare a wash for them as follows:—To 10 gallons of strong soap suds, add ⅛th of a bushel of stone lime, and as much soft cow dung as will make the wash of a proper consistence to work with the common white wash brush—put it on the bodies, and as high on the limbs as the brush will work. Early in October or April is the best season to wash the trees; a white wash composed of lime and water is often used to good advantage, but is not so safe or useful to the trees, as the above, especially where the trees are covered with a rough bark, and consequently receives too large a share. Soft soap or potash prepared so as to be put on with a brush is better than either of the above. Persons becoming acquainted with the beautiful thrifty appearance the above washes will cause the tree to have as far as the brush touches, will seldom neglect having it done at least once a year while the trees are young, destroying a large quantity of insect's eggs, and makes the bark so smooth as but to afford few hiding places for them, and at the same time increases the growth of the trees.

Trimming.—Every spring the trees ought to be examined, and trim out any branches that appear as though if left on might cross or crowd the main branches of the head of the tree, and on looking at it a judgment must not only be formed from present appearance, but how it would appear three or four years to come, for if a limb should be left on for that length of time, and afterward have to be cut out, would be a great loss of nutriment, that would otherwise have gone into the main branches and would have made the tree that much larger; also trim off all the branches that hang too low, or ought to be cut to make the tree balance, and much of the nutriment of the tree will be saved; by trimming off all the superfluous sprouts of spring growth early in June, with the additional advantage of preventing a recurrence of them, as the wounds would immediately heal over, and would very much diminish the winter or spring trimming. A young orchard may saftely be trimmed any time during the winter when the proprietor can attend to it best, especially if done at least annually thereby rendering the amputation of large limbs unnecessary.

Apples—Soil, Aspect, &c. proper.—Any lands that will produce good crops of Indian corn will produce good crops of apples, whilst sandy land, stiff clay, and wet land is unfavorable as the apple blooms late in the spring. The aspect is of less account than any other fruits—however, if protected by native woods or plantations on the north and west, would be the means of ripening the fruit with a higher flavor, and being protected from high winds would not be so subject to have the fruit blown down. To make an orchard productive, it must be kept rich, especially after it commences bearing.

Pear Trees.—Pear trees whilst young require nearly the same treatment and same soil as recommended for the apple—but as our climate is rather warm for this valuable fruit, which in rich ground and under good culture frequently grows too rapidly producing soft spongy wood, and in in my opinion renders the tree less capable of withstanding the various changes of our warmest months and hence impart the cause of the disease called the fire blight.

To counteract the effect of our climate, I would recommend planting in a cold north-eastern aspect defended by lofty trees on the south-west at a sufficient distance to prevent the roots from coming into collision with the Pear. And after the tree has put out buds, head it down to the lowest eyes or buds, and once a year shorten the main branches in March or early in June, in order to prevent the tree from towering high; in other respects trim sparing, leaving limbs sufficient to absorb the superfluous sap that would be sent up by the roots of the tree, which has not been docked like the *top*—by which means the tree becomes strong, the wood firm, short jointed and hardy; and before the tree may be expected to commence bearing fruit, set the land in grass under them, not to be mowed, but be left on the ground during the month to keep it cool. Should it happen that after all the above care has been taken a limb should be attacked by fire-blight which may readily be perceived by the leaves changing color, immediately on such a discovery proceed to amputate the diseased limb cutting a few inches below the diseased part, as the only way to prevent a further spread of the cause pare off the edge and cover the wound with soft cow dung or brown paint, if nothing better is handy.

ROBERT SINCLAIR.

SWELLED THROATS OF HOGS.—We have seen it stated that flour of sulphur administered, periodically, in the messes of hogs, was an excellent preventive of this disease, and from its cooling and aperient character, we have no doubt it would be found efficacious; for we take it for granted that the disease arises from obstructions in the glands of the throat, which probably spring from surfeit, a cold, or the impurity of the blood.—*Farmer and Gard.*

TO GIVE LUSTURE TO SILVER.—Dissolve a quantity of alum in water, so as to make a pretty strong brine, which must be skimmed very carefully; add some whiting to it, and when you wish to use it, dip a piece of linen rag in it, and rub over the plate.—*Yankee Farmer.*

SIR WALTER SCOTT, in one of his letters, lately brought to light, alluding to his fondness for planting and agriculture, playfully says, "I promise you my oaks will outlast my laurels; and I pique myself more on my compositions for manures, than on any other compositions whatsoever, to which I was ever accessary."

LIST OF PAYMENTS FOR THE FARMER,

From December 24, 1836, to February 1, 1837.

For Volume 2.
A. B. Shelton.
For Volume 3.
Orin M'Clure,
A. *B.* Shelton.
Volume 4.
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Christian Rappert,
E. B. Underhill,
Brown H. Williams,
Daniel *B*. Parsons,
Half of Volume 9.
James Jones,
Aug. Howland.

Hortus Siccus.

In studying Botany, it is of advantage to prepare a book of dried specimens of plants; such a book is termed Hortus Siccus, a dry garden. Choose from a plant a specimen having a flower, and leaf, and if possible a seed. Lay it upon thick blotting paper, placing one or two sheets of the same over it; upon which unless the specimen be very succulent and thick, lay another specimen, and then more paper, Care must be taken to lay the specimen smooth and flat upon the paper; no part of the specimen should be under another part; cut off any portion that is inconvenient to retain; if any bud or flower be too thick pare off some of the under side to make them lie properly. When they are arranged put a heavy weight upon them,—after a *few hours* carefully shift the position of each specimen to a dry part of the paper, and replace the weight; repeat this changing of paper, if necessary until the specimen is perfectly dry. Prepare a solution of gum with a little camphor in it, and secure each specimen to a page in a folio of cartridge or white-brown paper; and then write under each the name of the plant, class, order, tree, shrub, herb, country, &c. In the case of any specimen being full of sap, a hot iron may be passed two or three times over the paper—taking care not to burn it.—*Hor. Cabinet.*

Brighton Nurseries.

FOR SALE, 20,000 Morus multicaulis, or Chinese Mulberry Plants, warranted the true and genuine kind. Orders addressed (by mail) to Messrs. WINSHIP, Brighton, Mass. for Mulberry, Fruit ond Ornamental Trees. Shrubs, Creepers, Herbaceous Perennials, &c. &c. that are cultivated in any nurseries in the United States, with a first rate collection of Green House Plants. will receive prompt attention, and if required, forwarded to any part of the Union.

Brighton, Jan. 18, 1837. 4t

AGRICULTURAL PAPERS.

THE publisher of the GENESEE FARMER, grateful for the patronage hitherto extended to his Agricultural papers, would give notice that a new volume (the 7th) of

The GENESEE FARMER, will commence on the first of January, 1837. It will be enlarged and otherwise improved, and no exertions spared to sustain the high rank it has attained. It is published every Saturday in quarto form, making an annual volume of 416 pages, at $2 a year, *payable in advance.*

The 2d volume of the MONTHLY GENESEE FARMER also commences on the first of January. It is published on the first of each month, 16 pages large octavo, at 50 cents a year—Seven copies for $3—Twelve for $5, always in advance. All letters to come free of postage.

☞ Postmasters, and others in all sections of the country, are respectfully invited to act as agents to procure subscribers for these papers.

☞ Editors with whom we exchange, are reunested to copy the above.

Agricultural School.

AN election for thirty Directors of the New-York State Agricultural School, will be held at the Capitol in the city of Albany, on the 15th Feb. next, at 4 o'clock, P. M. Jan. 5, 1837.

J. BUEL, L. F. ALLEN, H. YATES, J. DELAFIELD, } Commissioners. { J. P. BEEKMAN, J. CENTER, W. CUNNINGHAM.

Subscriptions to the stock of the Company will be received by the several commissioners until the day of election.

jan 14 f3

To be Sold,

A VERY excellent Farm, beautifully situated, adjoining the village of Ancaster, near the head of lake Ontario, Upper Canada, about 7 miles from Hamilton and Burlington Bay; consisting of 200 acres (40 chains wide by 50 chains deep.) About 120 are in cultivation. There is a comfortable house, a well, &c. frame barn, a stable, wagon house separate from the barn, a good old orchard in full bearing, and the farm is well watered, having the Ancaster mill stream passing thro' it, and affords a sufficient fall for a flour mill. As two of the surveyed lines of the great western rail-road pass through the farm, the probability is that many village lots may be sold on the line adopted. Apply to the proprietor on the premises, or to the subscriber in Rochester.

jan 14 6t LUTHER TUCKER.

For Sale,

THE valuable Farm formerly owned by General Charle Thompson, situated in the town of Ovid, Seneca county; 3 1-2 miles south west of the village of Ovid, extending to the Seneca lake, containing about 370 acres of land; half of it improved, under a high state of cultivation and in first rate repair the remainder valuable timbered land, a large proportion of it white oak. On the premises is a large well finished two story dwelling-house, wood house, 4 tenant houses, 3 grain barns, with sheds and hay barns, &c.; the stock in which is included. 700 Saxony sheep will be sold with the farm if desired. For further information inquire of ASA SPRAGUE, Esq. Schenectady; DAVID HUDSON, Esq. Geneva; or of the subscriber on the premises.

WM. R. SCHUYLER.

jan 14 4t

ANNUAL MEAN TEMPERATURE, &c. FOR THE LAST SIX YEARS.

YEARS.	Mean Temp	Mean Press	Inches Rain	Inches Snow	Tem. sp. w.	Lowest Temperature.	Highest Temperature.
1831	48°4	29.45	29.9	77	47	Feb. 7, — 4 deg below.	June 3, — 95 deg. above.
1832	50 1	29.52	24.3	72	47	Jan. 27,— 6 ———	June 25,— 88 ———
1833	49 6	29.49	22.6	75	46	Jan. 17,— 4 ———	July 21,— 91 ———
1834	51	29.52	18.1	52	47	Jan. 4,— 10 ———	July 9,— 95 ———
1835	47 5	29.52	25.9	68	48	Feb. 3,— 3 ———	June 11,— 90 ———
1836	46 6	29.56	27.1	74	49.2	Feb. 2,— 5 ———	Sept. 19,— 87 ———
Me. 6 y's.	48°8	29.52	24.6	69.4	47.3		

SYNOPSIS OF METEOROLOGICAL TABLES FOR SIX YEARS:

Showing the Mean Temperature, Pressure of Atmosphere, &c. for every month of the year, kept at Rochester.

Months	Temperature.						Pressure of Atmosphere.						Inches Rain.						Inches Snow.						Temperature of Spring Water.					
	1831	1832	1833	1834	1835	1836	1831	1832	1833	1834	1835	1836	1831	1832	1833	1834	1835	1836	1831	1832	1833	1834	1835	1836	1831	1832	1833	1834	1835	1836
January,	23°	26.4	31.4	26	30.1	27.6	29.45	29.56	29.42	29.67	29.54	29.60	.3	.5	.9	1.4	.3	....	15	15	33	9	13	7	37	36	36	39	37	40
February,	23.5	26	26	37	22.4	21.7	29.70	29.63	29.51	29.54	29.56	29.63	1.8	.8	.4	....	.5	....	5	29	9	8	16	9	42	37	37	41	39	44
March,	41.8	38.6	35.4	38	35.5	29.7	29.39	29.44	29.50	29.58	29.59	29.60	.8	1.5	.8	.1	1.5	.5	2	....	2	2	11	16	48	41	38	48	42	48
April,	47.5	47.4	52.5	51	44.8	44.8	29.38	29.48	29.54	29.52	29.41	29.62	4.3	1.5	1.8	6.1	2.2	.3	....	....	....	4	2	2	50	48	41	50	45	50
May,	59.7	57.2	62	60	59.8	58.5	29.42	29.51	29.51	29.48	29.50	29.56	1.2	1.8	1.5	2.6	1.9	4.5	....	....	....	....	....	....	52	50	54	54	56	58
June,	71.6	70.3	62	65	65.9	66	29.50	29.42	29.38	29.48	29.48	29.56	2.8	.8	1.2	2.6	1.8	3.5	....	....	....	....	....	....	58	54	54	56	54	60
July,	71	74	70.9	76	72	72	29.49	29.50	29.51	29.50	29.52	29.49	5.4	4.	2.	1.8	1.8	3.5	....	....	....	....	....	....	60	56	56	60	56	60
August,	71.3	70.3	68	73	68.7	65	29.61	29.60	29.49	29.54	29.55	29.49	3.4	1.7	2.	1.5	2.1	2.5	....	....	....	....	....	....	57	54	55	59	55	57
September,	60.9	62.8	63.5	65	57.7	61.3	29.50	29.54	29.54	29.57	29.55	29.61	2.4	2.3	1.5	1.3	2.1	2.8	....	....	....	....	....	....	54	53	54	55	54	56
October,	51.5	52.6	49.5	51	53.8	44.4	29.54	29.50	29.46	29.68	29.52	29.55	4.2	1.2	1.3	3.4	5.4	3.	....	....	....	....	....	....	56	54	56	59	59	61
November,	38.9	41.5	40.4	40	41.3	38.9	29.44	29.51	29.48	29.37	29.60	29.51	1.6	2.8	1.8	.5	1.5	2.8	3	6	8	7	19	6	48	49	49	51	46	52
December,	19.5	34.5	34	30	28.5	29.4	29.49	29.47	29.56	29.60	29.56	29.60	0.0	2.4	1.	.5	.5	1.5	13	2	14	10	9	9	40	44	42	46	41	50

The temperature for the past year, it will be remarked, is lower by about 1° for each day than either of the five preceding, and by nearly 3° lower than the mean of the five. Our thermometer is attached to the outside of a second story window and faces the north with a free exposure. The registers are made at 10 o'clock, A. M. and P. M. It has been found by trial of a long series of observations that the 10 o'clock registers give a nearer mean average for the 24 hours, than two made at any other period. If registers are made every hour of the day, which is impracticable, the result will be the nearest approximation to truth, and 10 o'clock will be found very nearly the medium of the extremes.

The range of mercury in the thermometer in this country, is less than 2 inches. On the 9th of March, 1831, the mercury stood at 28.40, and Feb. 14th, 1831, it stood at 30.20; also, at 30.20, January 15, 1834. These are the greatest extremes that have been noted. When it is considered, however, that the whole pressure of the air (equal to 14½ lbs. upon the square inch) is measured or balanced by 30 inches of mercury, the fluctuation is in a ratio of about 1 to 15, or a variation of nearly 1 ton weight upon the human body. A fact startling to those only who are unacquainted with the most common phenomena of the air they breathe.

Table of Monthly Means, &c for 1836.

Months.	Ther	Bar.	Rain	Sno	Sp. w.
January..	27.6	29.60	....	9	48
February.	21.7	29.63	....	6	46
March ..	29.7	29.60	.5	11	46
April	44.8	29.62	3.6	2	46
May	58.5	29.56	5.5	....	45
June	66	29.56	3.6	....	50
July	72	29.54	2	....	54
August ..	65	29.43	1.8	....	54
September	61.3	29.61	2.8	1	58
October..	44.4	29.55	3	....	54
November	38.9	29.51	2.8	6	48
December	29.4	29.60	1.5	9	42
An. Mean	46.6	29.56	27.1	74	49.2

Feb. 2, Thermometer 5° below zero. May 14, light frost. July 7, 86° above zero. Sept. 19, 87° above zero. Sept 29, snow and rain, followed by white frost.

METEOROLOGICAL TABLE,

KEPT AT ROCHESTER, FOR DECEMBER, 1836.

Days.	10 A. M. therm.	10 A. M. barometer.	10 A. M. winds	10 A. M. sky.	10 P. M. therm.	10 P. M. barometer.	10 P. M. spuiw	10 P. M. sky.
1	28	29,40	N	clear	22	29,65	N w	fair
2	32	29,60	w	fair	28	29,65	w	clear
3	40	29,55	w	fair	34	29,60	w	clear
4	44	29,55	s w	fair	14	29,40	s w	clear
5	24	29,25	s w	clear	32	29.50	N w	fair
6	28	29.7	N w	clear	22	29.80	N w	fair
7	38	29,65	s w	fair	30	29,60	s w	fair
8	52	29,60	w	fair	14	29,60	s w	fair
9	44	29,55	s w	fair	44	29,30	s	clear
10	24	29,40	w	clear	38	29.65	w	clear
11	44	29,60	s	fair	14	29.40	w	clear
12	42	29,65	w	clear	38	29,70	w	clear
13	40	29,25	s	clear	44	28,71	s w	clear
14	24	29,05	N w	clear	23	29,40	N w	clear
15	25	29.65	N w	cloudy	17	29,80	N w	cloudy
16	25	29,75	w	cloudy	24	29,70	E	cloudy
17	26	28.90	s E	fair	26	29,05	s w	cloudy
18	23	29,60	w	fair	22	29 80	w	cloudy
19	20	30,00	s w	clear	24	29 95	s	cloudy
20	30	29,75	s	fair	38	29.50	s	cloudy
21	20	29,10	w	clear	10	29,50	w	fair
22	9	29,95	w	clear	10	29,95	w	fair
23	26	29,60	s	fair	31	29,60	s	fair
24	32	30,00	E	fair	30	29,80	E	clear
25	42	29,65	s	clear	40	29,60	w	clear
26	25	29,80	N w	clear	14	29,95	N w	fair
27	20	30,05	N	fair	18	30,00	N	fair
28	25	29 90	s w	fair	19	29,75	s w	clear
29	28	29 60	w	clear	18	29,85	N	fair
30	12	30.00	N	clear	13	29,90	N	clear
31	26	29 70	s	fair	36	29,35	s E	fair

MEANS—Ther. 29.4; Bar. 29.60; Snow 9 in.; Rain 1.5 in.

Morus Multicaulis.

JOSEPH DAVENPORT offers for sale 50,000 plants of the true Chinese Mulberry, or Morus multicaulis. Trees will be carefully packed and forwarded as early as desired. Orders must be sent to Colerain, Mass. till the 15th of March; after which time to Hartford, Ct. All inquiries will be attended to at his plantation, 5 miles south-west of the city. Early orders only will be supplied, as arrangements will be made to use all not called for soon.

Colerain, Jan. 23, 1837.